ABSTRACT

The present invention enables system verification and test of high quality optical networks with extremely low BER. The invention allows investigation of optical nonlinear penalty contributions by varying channel power while keeping constant OSNR at the receiver end. The present invention provides a method to measure system performance gains and penalties associated with different dispersion maps. The present invention gives simple automated test procedures which ensures fast test time. The present invention comprises a transmitter for transmitting an optical test signal to the optical network. The present invention includes a first attenuating module for attenuating channel power of the optical test signal. Also, the present invention includes a noise injection module for adding noise to the optical test signal. Further, the present invention includes a second attenuating module for adjusting the channel power of the optical test signal so that the optical test signal can be detected by a receiver, and a test module for calculating the BER based on the optical test signal received at the receiver.